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READING AND BASIC SUBJECT MATTER ACHIEVEMENT OF JOB CORPS URBAN CENTER TRAINEES.

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IN AN ADDRESS THE AUTHOR DESCRIBED A STUDY OF THE GAINS IN READING, ARITHMETIC, AND LANGUAGE OVER A 3-MONTH PERIOD MADE BY JOB CORPS ENROLLEES AT CAMP KILMER. THESE ENROLLEES WERE BETWEEN 16 AND 21 YEARS OLD, CITIZENS OR PERMANENT RESIDENTS OF THE UNITED STATES, SCHOOL DROPOUTS FOR 3 MONTHS OR MORE, UNABLE TO HOLD AN ADEQUATE JOB, UNDERPRIVILEGED BECAUSE OF IMPOVERISHED SURROUNDINGS, AND IN NEED OF A CHANGE OF ENVIRONMENT TO BECOME USEFUL AND PRODUCTIVE CITIZENS. FROM THE ORIGINAL GROUP OF 1,100 TESTED IN MARCH 1966, ONLY 394 CORPSMEN WERE AVAILABLE TO TAKE RETESTS IN JULY 1966. THE COMPLETE BATTERY OF THE JUNIOR HIGH LEVEL, CALIFORNIA ACHIEVEMENT TESTS FOR GRADES 7, 8, AND 9, WAS ADMINISTERED. FORM X WAS ADMINISTERED IN MARCH, AND FORM Y WAS GIVEN IN JULY. FINDINGS INDICATED THAT (1) THESE INDIVIDUALS WERE FUNCTIONING AT THE BEGINNING OF THE JUNIOR HIGH LEVEL IN READING, ARITHMETIC, AND LANGUAGE, (2) THERE WERE NO STATISTICALLY SIGNIFICANT CHANGES OVER A 3-MONTH PERIOD FOR EITHER READING, ARITHMETIC, OR LANGUAGE, AND (3) THE MEANS WERE STABLE AS INDICATED BY THE RELATIVELY SMALL STANDARD ERRORS ON THE PRE-TESTS AND POST-TESTS. FINDINGS AND SUGGESTIONS FOR FURTHER RESEARCH ARE DISCUSSED. TABLES AND A BIBLIOGRAPHY ARE INCLUDED. THIS PAPER WAS AN INVITED ADDRESS TO THE ANNUAL MEETING NATIONAL READING CONFERENCE, "JUNIOR COLLEGE AND ADULT READING PROGRAMS--EXPANDING FIELDS" (16TH, ST. PETERSBURG, DECEMBER 1-3, 1966). (RH)

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READING AND BASIC SUBJECT MATTER* ACHIEVEMENT OF JOB CORPS URBAN CENTER TRAINEES

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Introduction

Background of the Problem

This study was concerned with the description and evaluation of the educational achievement of Job Corps trainees at Camp Kilmer, a residential urban center established in February 1965 under Title I - Youth Programs, Economic Opportunity Act, 1964, passed by the 89th Congress of the United States of America.

*Invited address to the Sixteenth Annual Meeting National Reading Conference, "Junior College and Adult Reading Programs -- Expanding Fields", December 1-3, 1966, St. Petersburg, Florida

Statement of the Problem

Specifically, the study attempted to answer the following question:

> What gains were registered in reading, arithmetic and language over a three-month period for Job Corps trainees at Camp Kilmer?

Related Literature

Since Job Corps trainees are by definition disadvantaged youth the related literature was reviewed under this topic.

The most significant critical review of the extant literature in the field of the disadvantaged appeared in the December 1965 issue of the Review of Educational Research by Gordon (9), Grotberg (11), Karp and Sigel (17), Raph (23) and Wilkerson (25).

Two books containing compilations of studies and essays on the disadvantaged child and adult were published in 1966. Frost and Hawkes (6) dealt with the disadvantaged child and cited 345 references. Lanning and Many (20) focused on disadvantaged adults.

The United States Department of Labor (24) issued a critical annotated bibliography of research on unemployment and retraining. Barlow (1) and his co-workers in the Sixty-fourth Yearbook of the National Society for the Study of Education examined the social, economic, governmental and technological aspects of Vocational Education.

Peterson (22) reported one of the early efforts by the State of California to evaluate the concept of trainee camps for unemployed youth. Some 118 references were cited as part of the literature search on youth training camps, especially those that were concerned with the CCC (Civilian Conservation Corps) programs of the 1930's.

Griess (10) attempted to detail efforts at selecting trainees for a pre-occupational training program.

Bloom, Davis and Hess (3) provide excellent summaries of what is known about the culturally deprived from an educational point of view and present 108 detailed annotated references of basic research in the field of the disadvantaged.

However, from the available literature, it is apparent that no previous study has been concerned with basic subject matter achievement of disadvantaged youth enrolled in a residential academic and vocational training program such as the Job Corps.

The Study

Population

In order to qualify for the Job Corps residential training programs enrollees had to be: a) 16-21 years old; b) citizens and/or permanent residents of the United States; c) school dropouts for three months or more; d) unable to hold an "adequate" job; d) underprivileged from having grown up in impoverished surroundings; e) in need of a change of environment in order to become useful and productive citizens.

Table 1 gives a comparison of the general characteristics of the Camp Kilmer Corpsmen with information available for corpsmen around the country.

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Insert Table 1 about here

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It is apparent from Table 1 that the mean age of the Kilmer Corpsmen was about 1½ years greater than that for corpsmen for the entire country. The Kilmer Corpsmen have also completed an average of a half year more of schooling. With respect to basic subject matter achievement they were on the average 2-2½ years above the corpsmen tested throughout the Job Corps centers. However, the Kilmer Corpsman is as much at a disadvantage as his national counterpart with respect to holding down a job.

One reason for the Kilmer trainees' consistently higher showing in subject matter achievement may be that the data for the 10,000 corpsmen around the country were not analyzed according to whether the trainees were from conservation or urban centers. A second reason for achievement differences may be that differences in tests existed when achievement was measured. The Kilmer Corpsmen were evaluated by the California Achievement Test, whereas the test(s) used for the national survey is not given. Reports from various administrators indicate that the Stanford Achievement was to be used.

From an original group of 1,100 who were initially tested in March 1966, only 394 corpsmen were available to take retests in July 1966 -- a survival rate of 35.5%. It is not known whether there are any differences between the sample that survived and those who dropped out of the study. It is those who were present for both tests who constituted the group that was studied.

Procedure

The Complete Battery of the Junior High Level, California Achievement Tests for Grades 7, 8, 9 was administered by counsellors and teachers trained to give the test battery.* Form X was administered in March 1966 and Form Y was given in July 1966.

That the responses on the answer sheets for both forms appear to be answered to the best of the respondent's abilities is indicated in Table 2.

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*The perserverance, integrity and administrative ability of Mr. Larry Perr, then Supervisor of Testing and now Operations Analyst at Camp Kilmer is gratefully acknowledged.

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Insert Table 2 about here

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The two tests with the highest chance level scores were Reading Vocabulary which appeared at the beginning of the test battery and Spelling which came at the end of the test battery. It is notable that the Vocabulary Reading and the Spelling were the two shortest tests. The Reading Vocabulary contained four 2-minute sections and the Spelling test was given in ten minutes.

Wrightstone (26) noted that minority groups and lower socio-economic levels work rapidly and randomly when speed is required, apparently to extricate themselves from an unacceptable situation and this may be reflected in the unreliability of these tests.

The following analysis may be of interest:

1. Only two cases received chance level scores for the entire pre-tests and only one case achieved chance level scores for the entire post-test.

2. Except for the Reading Vocabulary and Spelling tests, the remaining four tests on the California Achievement Test Battery were within range of expected chance level scores in terms of the standard deviations of the tests.

3. A check of the answers on the distractors chosen indicate that choices were not chance but deliberate, often approaching the distractor closest to the correct answer than the incorrect possibility.

In summary, the data strongly suggest that the pre-test and post-test scores were essentially indicators of the integrity of the efforts of the subjects taking the California Achievement Tests.

Results

The assumption made was that improvement, if any, would be due to the Camp Kilmer Job Corps training program in the basic subjects.

Table 3 presents the pre-test and post-test results for the 394 Camp Kilmer trainees.

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Insert Table 3 about here

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From Table 3 the following inferences seem warranted:

1. That this sample of Job Corps trainees is essentially functioning at the beginning of the junior high school

level in reading, arithmetic and language.

2. That there are no statistically significant changes over a three-month period for any one of reading, arithmetic or language.

3. That the means are stable as indicated by the relatively small standard errors on the pre-tests and post-tests.

Discussion

The fact that there were no statistically significant differences in reading, arithmetic and language achievement for Job Corps trainees over a three-month period may be considered as a function of reading expectancy. The reading expectancy formula used and empirically validated by Bond and Clymer, cited in Bond and Tinker (4:76-81), appeared to be appropriate for determining what reading level might be expected for a given group. The reading expectancy formula is computed by multiplying school grade completed by I.Q. and the addition of 1.0. Intelligence Quotient is assumed to be an index of learning rate in reading. The number of grades completed was 9.0. The I.Q.* obtained on three separate samplings of

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*Personal communication from Dr. William Bingham, Graduate School of Education, Rutgers - The State University, New Brunswick, New Jersey

100 corpsmen totaling 300 on the Thorndike-Lorge Intelligence Tests was approximately 80 for all three testings. Grade 1.0 is added because the grade score is 1.0 when a corpsmen enters the public school. Inserting these figures in the formula for reading expectancy, we obtain (9.0 x .80 + 1.0) or 8.2.

The Reading Comprehension level was 7.6. Therefore, under the most ideal conditions only .6 of a grade gain could be expected.

The theoretical implications of this finding appears to be consistent with Bloom's (2:110) extrapolated estimates of indices of achievement development.

Table 4 summarizes the percentages of expected achievement from the chronological age of 0 until 18.

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Insert Table 4 about here

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The practical implications of Table 4 may be that nineteen years may be too old for compensatory intervention. Indeed, nineteen months may be more appropriate!

Further, the learning or unlearning of these school subjects may be to a great extent not too readily reversible, Bloom (2:3).

Can a disadvantage at one period of life be compensated for by training at a later period? Bloom (2:4) suggests that if the deficits are incurred over a long period of time and occur relatively early, the effective possibility of overcoming these deficits are for all practical purposes difficult to make up. However, a deficit over a short period may be almost fully remedied at a later time.

Limitations

Several limitations of this study are recognized and because of time, administrative decisions, budgetary considerations, or state of knowledge could not be taken into account. Some of these limitations are as follows:

1. Period of time may have been too short in spite of the a priori reading expectancy formula. This formula is at best an approximation and suggestive rather than definitive. Intelligence Quotient is not necessarily a general index of rate of learning nor is it a specific

predictor of rate of learning of particular subject matter. Certainly, more basic knowledge has to be acquired about individual and group rates of learning. Jensen's (16) work is promising in this area.

2. It may also be that basic subject matter areas were perceived by the corpsmen as incidental to vocational training, although three hours a day for five days a week were devoted specifically to the academic subjects.

3. No detailed descriptions were available for classroom activities.

4. The expectancies arrived at by Bloom are based on traditional curricula for typical students in the public schools. In addition, Bloom makes the assumption that the ceiling for achievement in basic subject matter areas is eighteen. In today's technological society traditional curricula and methods need to be questioned and re-evaluated for immediate, intermediate and long range goals for various populations.

Suggested Research

1. Item analyses to determine which of the 410 items discriminate.

2. More controlled studies on teaching methods, materials and student-teacher interaction are needed.

3. Longitudinal data is needed for these kinds of disadvantaged youth.

4. A theoretical formulation is needed for developing approaches in the area of compensatory training. The

dynamics of the nature-nurture nexus and interacting systems of the vocational and academic areas need to be explored. Two frames of reference suggest themselves, a conceptual model, a Functional Job Analysis outlined by Fine (5) and the General Open Systems Theory delineated by Kling (18) (19). An extension of General Open Systems Theory and the Substrata-Factor Theory, Holmes (12) (13), Holmes and Singer (14) (15) is further developed and extended to Information Theory by Geyer (8).

References

1. Barlow, Melvin L. (Ed.), Vocational Education, The Sixty-Fourth Yearbook of the National Society for the Study of Education. Chicago: The University of Chicago Press, 1965.

2. Bloom, Benjamin S., Stability and Change in Human Characteristics, New York: John Wiley and Sons, Inc., 1964.

3. Bloom, Benjamin S., Allison Davis, Robert Hess, Compensatory Education for Cultural Deprivation, New York: Holt, Rinehart and Winston, Inc., 1965.

4. Bond, Guy L., Theodore Clymer, Cited by Bond, Guy L., Miles, Tinker, Reading Difficulties Their Diagnosis and Correction.

5. Fine, S.A., The Nature of Automated Jobs and Their Educational and Training Requirements, McLean, Virginia: Human Sciences Research Inc., June 1964.

6. Frost, Joe L., Glenn R. Hawkes, (Eds.), The Disadvantaged Child, Boston: Houghton Mifflin Co., 1966.

7. Garrett, Henry E., Statistics in Psychology and Education, New York: Longmans, Green, 1958.

8. Geyer, John Jacob, Perceptual Systems in Reading: A Temporal Eye-Voice Span Constant, Unpublished Ph. D. dissertation, University of California, Berkeley, 1966.

9. Gordon, Edmund W., "Characteristics of Socially Disadvantaged Children," Review of Educational Research, 35, No. 5, 377-388, December, 1965.

10. Griess, Jerald A., Selection of Trainees for a Twelve-Week Pre-Occupational Basic Education Program, Unpublished Doctor of Education dissertation, The Pennsylvania State University, 1966.

11. Grotberg, Edith H., "Learning Disabilities and Remediation in Disadvantaged Children," Review of Educational Research, 35, No. 5, 413-425, December 1965.

12. Holmes, Jack A., "The Brain and the Reading Process," In Claremont College Reading Conference, Twenty-second Yearbook. Claremont, California, Claremont College Curriculum Laboratory, 1957, 49-67.

13. Holmes, Jack A., "Basic Assumptions Underlying the Substrata-Factor Theory," Reading Research Quarterly, 1, No. 1, 5-28, Fall 1965.

14. Holmes, Jack A., Harry Singer, "Theoretical Models and Trends Toward More Basic Research in Reading," Review of Educational Research, 34, No. 2, 127-155, April 1964.

15. Holmes, Jack A., Harry Singer, Speed and Power in Reading in High School, United States Department of Health, Education and Welfare, Office of Education, Bureau of Educational Research and Development, Superintendent of Documents, Catalog No. FS5.230:30016, United States Government Printing Office, Washington D.C., 20402, 1966.

16. Jensen, Arthur R., "Learning Ability in Retarded, Average and Gifted Children," Merrill-Palmer Quarterly, 9, No. 2, 123-140, 1963.

17. Karp, Joan M., Irving Sigel, "Psychoeducational Appraisal of Disadvantaged Children," Review of Educational Research, 35, No. 5, 401-412, December 1965.

18. Kling, Martin, Description and Recommendations Concerning Reading, Communications and Vocational Training, Unpublished Memo, New Brunswick, N J.: Author, September 1965.

19. Kling, Martin, "General Open Systems Theory and the Substrata-Factor Theory of Reading." In Albert J. Kingston (Ed.), Institute V: Use of Theoretical Models in Research, Newark, Delaware, International Reading Association, 1966, 79-123.

20. Lanning, Frank W., Wesley A. Many, Basic Education for the Disadvantaged Adult: Theory and Practice, Boston: Houghton-Mifflin Co., 1966.

21. Office of Economic Opportunity, "Job Corps Facts," Public Affairs, Washington, D.C., 1-5, 1965.

22. Peterson, Gertrude D. An Evaluation of the Concept of Trainee Camps for Unemployed Youth, Menlo Park, California, Stanford Research Institute Project I-5504, June 1965.

23. Raph, Jane Beasley, "Language Development in Socially Disadvantaged Children," Review of Educational Research, 35, No. 5, 389-400, December 1965.

24. United States Department of Labor, Unemployment and Retraining An Annotated Bibliography of Research, Office of Manpower, Automation and Training, Washington, D.C., 1-31, November, 1965.

25. Wilkerson, Doxey A., "Programs and Practices in Compensatory Education for Disadvantaged Children," Review of Educational Research, 35, No. 5, 426-440, December 1965.

26. Wrightstone, J. Wayne, "Relation of Testing Programs to Teaching and Learning," In Warren G. Findley (Ed.) The Impact and Improvement of School Testing Programs, The Sixty-Second Yearbook of the National Society for the Study of Education, Part II, Chicago: University of Chicago Press, 1963, 45-61.

TABLE 1

Comparison of Characteristics of Kilmer Corpsmen with Corpsmen Throughout the United States

Characteristic	Kilmer Mean* N=394	U.S.A. Mean** N=10,000
Chronological Age	19.0	17.5
Grade Completed	9.0	8.5
Reading Level	7.6	5.0
Language Level	7.0	5.0
Arithmetic Level	7.6	5.0
Percent who never held a steady job	90.0	90.0

*Based on data calculated for this study.

**Based on a circular entitled "Job Corps Facts" published by Office of Economic Opportunity, Public Affairs, Washington, D.C., (21:2)

TABLE 2

COMPARISON OF CHANCE LEVEL SCORES FOR PRE-TESTS AND POST-TESTS ON CALIFORNIA ACHIEVEMENT TEST BATTERY FOR CAMP KILMER TRAINEES

N=394

Test	Total Possible Raw Score	Chance Level Raw Scores	Chance Grade Score	Pre-Test Chance Level Raw Score	Per Cent	Post-Tests No. Chance Level Scores	Per Cent
1. Reading Vocabulary	60	15	4.2	43	10.9	30	7.6
2. Reading Comprehension	86	22	5.0	12	3.0	25	6.3
3. Arithmetic Reasoning	55	11	5.3	6	1.5	8	2.0
4. Arithmetic Fundamentals	80	16	5.6	9	2.3	8	2.0
5. Mechanics of English	99	20	3.0	8	2.0	3	6.8
6. Spelling	30	6	4.8	28	7.1	36	9.1

TABLE 3

COMPARISON OF MEANS, STANDARD DEVIATIONS AND STANDARD ERRORS ON CALIFORNIA ACHIEVEMENT TEST FOR PRE-TEST AND POST-TEST SAMPLE OF CAMP KILMER TRAINEES OVER A THREE-MONTH INTERVAL

N=394

Test	Pre-test 3/66 Grade Level			Post-test 6/66 Grade Level			r bet. 3/66 6/66	Significance*
	Mean	S.D.	S.E.	Mean	S.D.	S.E.		
1. Reading Vocabulary	6.9	1.9	.06	7.1	1.9	.06	.80	NS**
2. Reading Comprehension	7.6	1.5	.06	7.7	1.8	.07	.78	NS
3. Arithmetic Reasoning	7.7	1.4	.04	7.8	1.6	.04	.74	NS
4. Arithmetic Fundamentals	7.5	1.2	.07	7.7	1.7	.08	.80	NS
5. Mechanics of English	6.7	1.3	.08	6.9	1.3	.08	.77	NS
6. Spelling	7.3	1.8	.03	7.3	1.8	.03	.72	NS

*Significances of the difference computed by using correlated means formula: See Garrett (7)
**Not significant at either the 5% or 1% level.

TABLE 4*

ESTIMATES OF ACHIEVEMENT IN BASIC SCHOOL SUBJECTS FROM 0-18 YEARS

Chronological Age	School Level	Per Cent for Each Period	Cumulative Per Cent
6-4	Pre-school	16	16
4-5	Nursery, K-1	17	33
6-9	1-3	17	50
9-13	3-7	25	75
13-18	7-12	25	100

*Adapted and reconstructed from data and generalizations cited by Bloom (2).